

PBT Criteria for Organic Chemicals

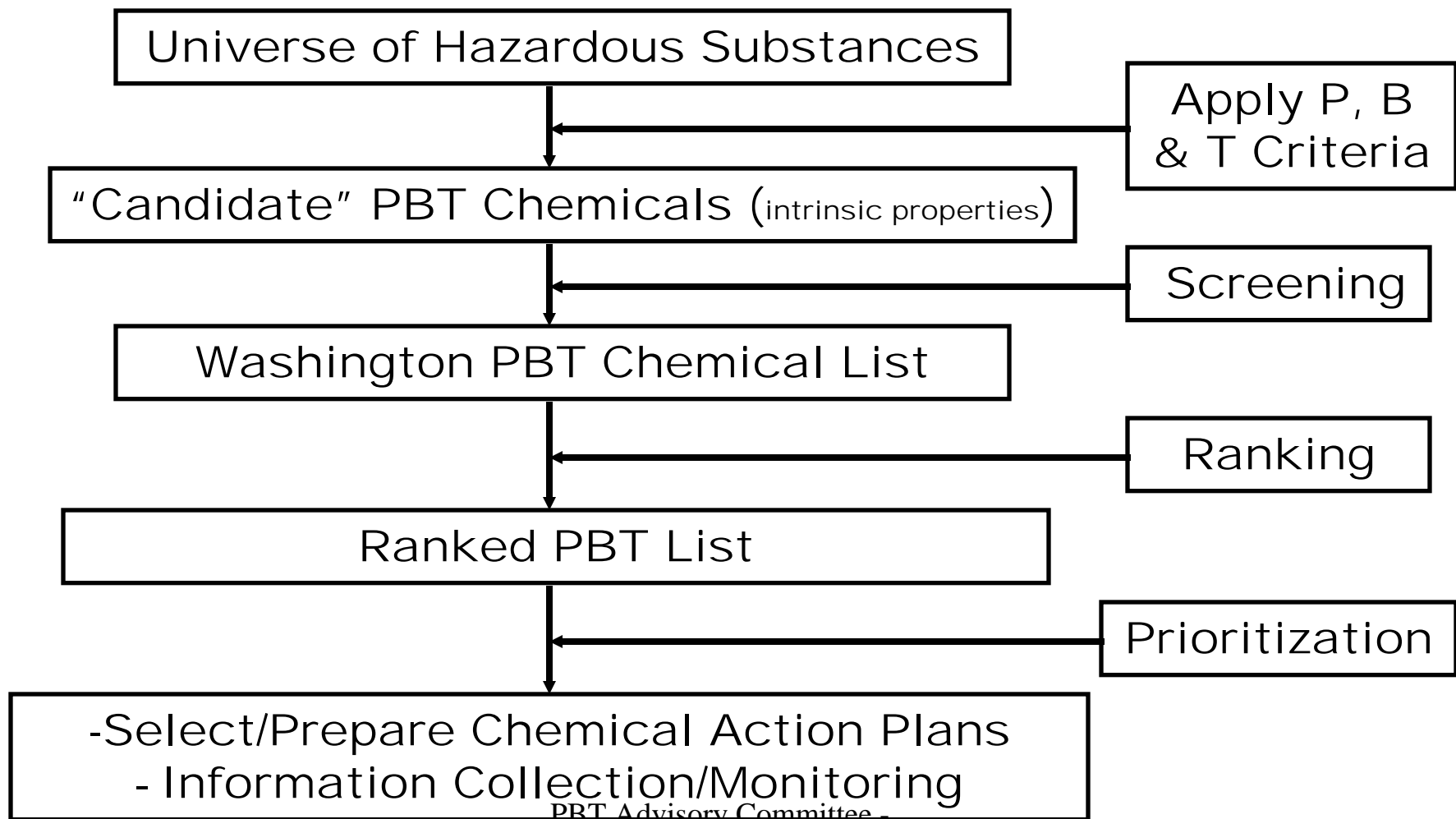
"...an enigma, wrapped in a riddle, shrouded in mystery..."

Winston Churchill

Prepared for
PBT Advisory Committee
October 14, 2004

PBT Advisory Committee -
10/14/2004

Building on Previous Meetings



PBT Advisory Committee

10/14/2004

Operating Assumptions

- Listing decisions will be made on the basis of the hazards associated with chemicals.
- Not all chemicals are PBTs.
- List preparation involves technical and policy choices.
- Precaution is built into current methods and measures.
- Current technical information provides solid foundation. New scientific information may refine, but not alter general conclusions.
- This is a work in progress - questions will be raised that require further work.

Approach

- Identify Comparison Universe
- Create Chemical Groups
- Identify Alternative Sets of PBT Criteria Based on September 8th Meeting
- Compile Data on "P", "B" and "T" for Organic Chemicals
- Evaluate Which Chemicals/Chemicals Groups Meet the Alternative PBT Criteria
- Break Up Groups and Compare Individual Chemicals (Comparisons not in E-Mails)

Comparison Results

"...Things are never quite as good as they seem. Things are never quite as bad as they seem. In between falls reality..."

John Calapari, UMass Basketball Coach

Alternative	# Compared	# Meeting Criteria
Applicable Chemicals & Chemical Groups		
Alternative A	27	22
Alternative B	27	21
Alternative C	27	20
Alternative D	27	17
Registered Pesticides (Information Only)		
Alternative A	13	11
Alternative B	13	10
Alternative C	13	9
Alternative D	13	3

Comparison Results (not previously distributed)

Alternative	# Compared	# Meeting Criteria
Polyaromatic Hydrocarbons (PAHs)		
Alternative A	27	20
Alternative B	27	18
Alternative C	27	17
Alternative D	27	16
Chlorinated dibenzo-p-dioxins and furans		
Alternative A	17	17
Alternative B	17	17
Alternative C	17	17
Alternative D	17	6

Initial Observations

- Higher criteria for persistence and bioaccumulation result in shorter lists
- Choice of criteria does not seem to have large impact on core group of chemicals
- Choice of criteria does seem to have a large impact on pesticides
- Similar lists are generated using a regional half-life of 580 hours and media-specific half-life values of 2 months for soil and surface water.

Additional Observations

“... What I want to know is, what are the next ten words?...”

Martin Sheen (“The West Wing”)

- It is not clear how the results would apply to a broader universe of chemicals.
- Five-fold lowering of toxicity fence-lines for human toxicity does not appear to result in significant changes in the number of chemicals meeting various criteria.
- Most of the information used to characterize the 17 chemicals that appear on all four lists came from high preference data sources.

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Discussion/Issues

"...it's not too far, it just seems like it.."

Yogi Berra

- Broad Issues from Previous Meetings
 - Sound scientific foundation
 - Precaution
 - Clarity and Transparency
 - Consistency
- Measures for Characterizing Persistence, Bioaccumulation and Toxicity

Sound Scientific Foundation

"...Science has the first word on everything and the last word on nothing..."

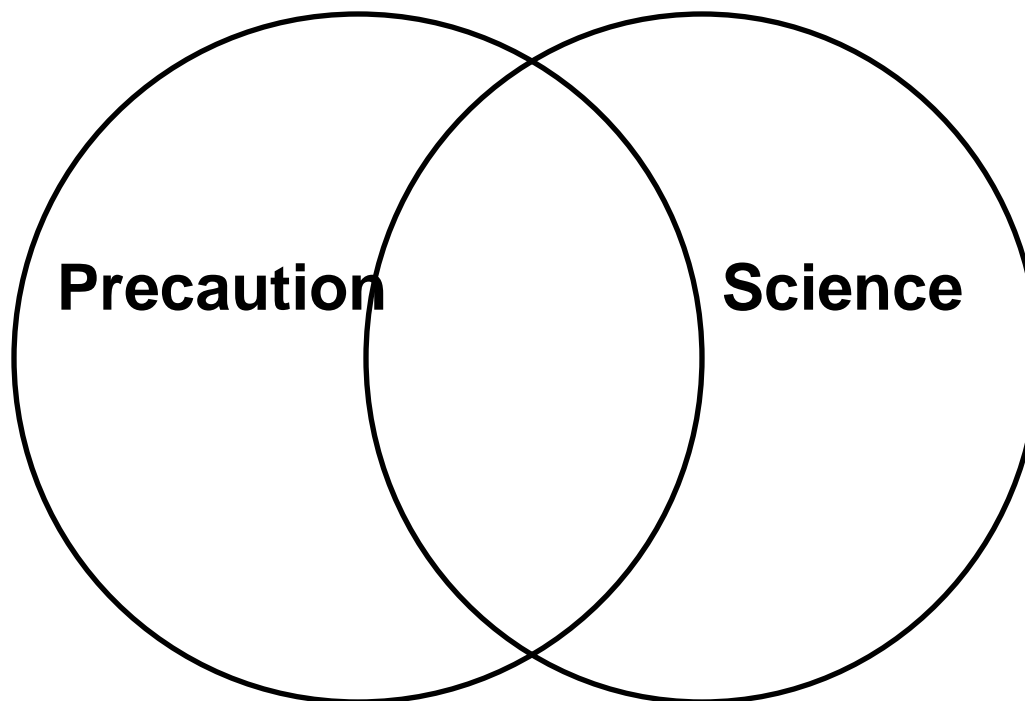
Victor Hugo

- Peer review of scientific information
- Commonly accepted methods and procedures
- Commonly used to support regulatory decision-making
- Reflects current state of scientific knowledge

Scientific Uncertainty/Variability

"..To know one's ignorance is the best part of knowledge.."

Lao Tzu



Ambiguity vs Specificity

'...the art of rulemaking is finding the appropriate balance between ambiguity and specificity...'

William Ruckelshaus

Predictability ↔ Flexibility

Transparency ↔ Blackbox

Clarity ↔ Confusion

Readability ↔ Mind-Boggling
Details

Consistency

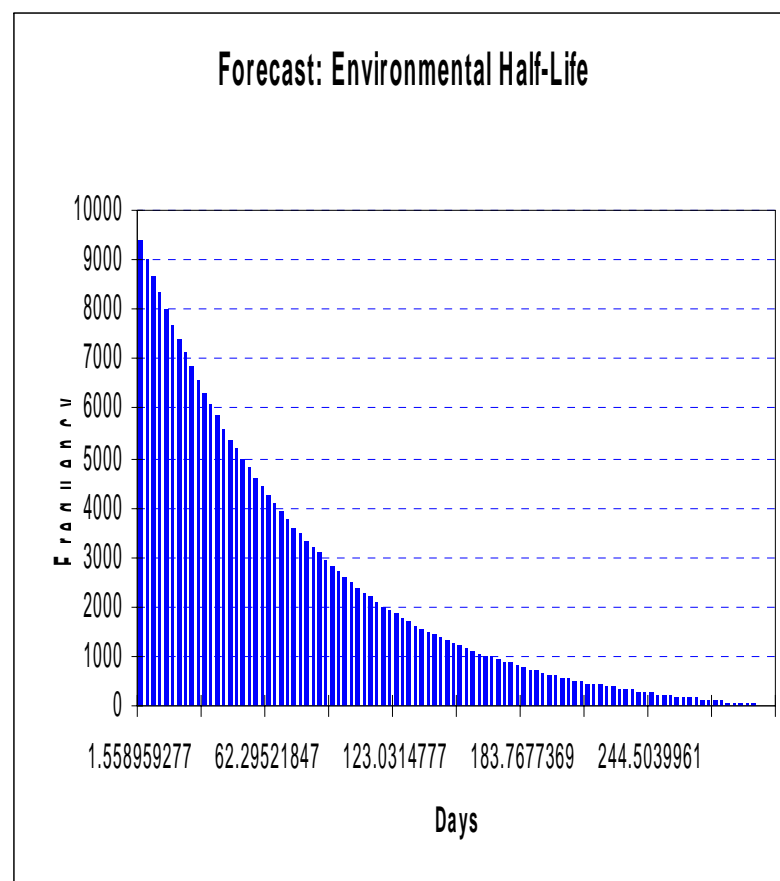
“...foolish consistency is the hobgoblin of small minds..”
Winston Churchill

- Consistency is important
 - Efficiency/sound public policy
 - Legal requirements
- Difficult to be consistent with everyone
- Important to match goals, purpose and circumstances when judging consistency

Persistence

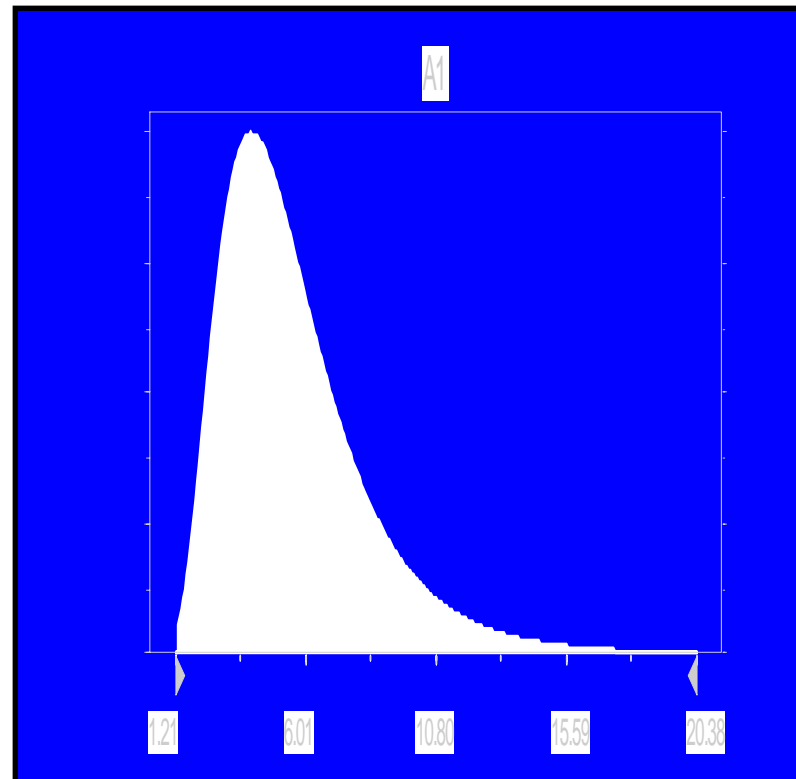
“...A theory should be as simple as possible, but no simpler...”
Albert Einstein

- Listing – Use media-specific values from the scientific literature
- Chemical action plans – Use information from multi-media models



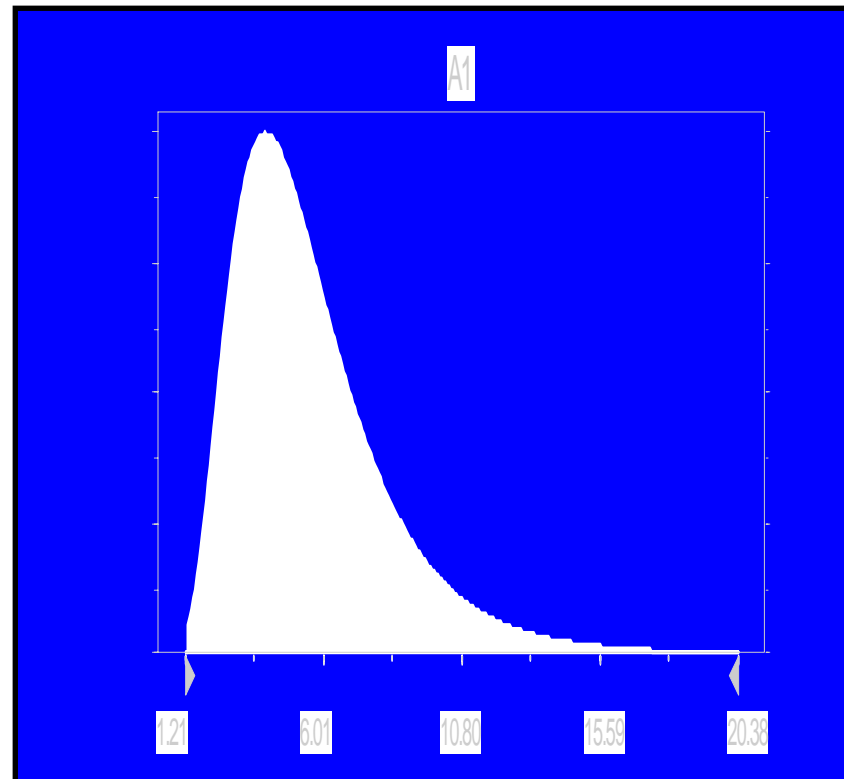
Bioaccumulation

- **Measures**
- **Information Sources**
- **Range of Values**

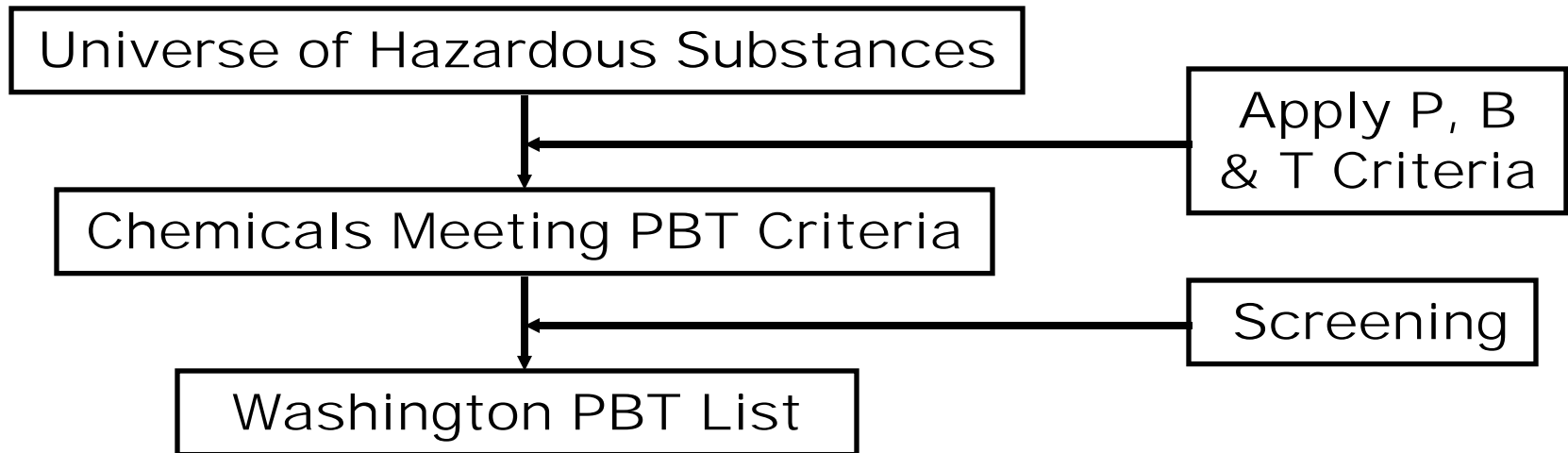


Toxicity – Non-Cancer Effects

- Measures
- Information Sources
- Range of Values



Potential Screening Factors



Potential Screening Criteria

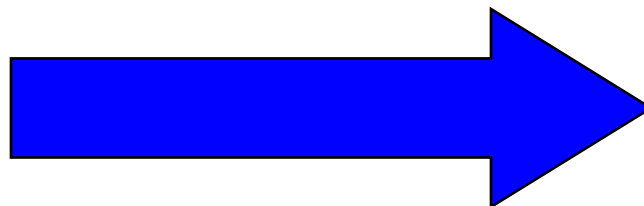
Registered pesticide/fertilizer
Use/environmental presence in WA (?)
Federal listing/rulemaking criteria (?)

Next Steps

"...If you don't know where you are going, you might not get there..."

Yogi Berra

October
14th
Meeting



November
17th Meeting

- Draft Rule Language
- Other Analyses